



Working Party 8F

ITU-R WP 8F STRUCTURE AND WORKPLAN

UPDATED, ITU-R WORKING PARTY 8F MEETING,
TOKYO 10-16 OCTOBER 2001

Attachments: 9

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ATTACHMENT 2.1

Working Party 8F terms of reference

1 The Working Party,

1.1 is responsible for the overall system aspects of IMT-2000 and beyond;

1.2 has the prime responsibility within ITU-R Study Group 8 for issues related to the terrestrial component of IMT-2000 and beyond; and

1.3 shall work closely with Working Party 8D on issues related to the satellite component of IMT-2000 and beyond.

2 The Working Party is the lead group for the overall maintenance of existing Recommendations on IMT-2000, collaborating with Working Party 8D on the satellite elements.

3 The Working Party is responsible for liaison with ITU-T and ITU-D on standardisation activities of IMT-2000 and beyond.

4 The Working Party shall maintain strong cooperative efforts with external standards development organizations (SDOs).

ATTACHMENT 2.2

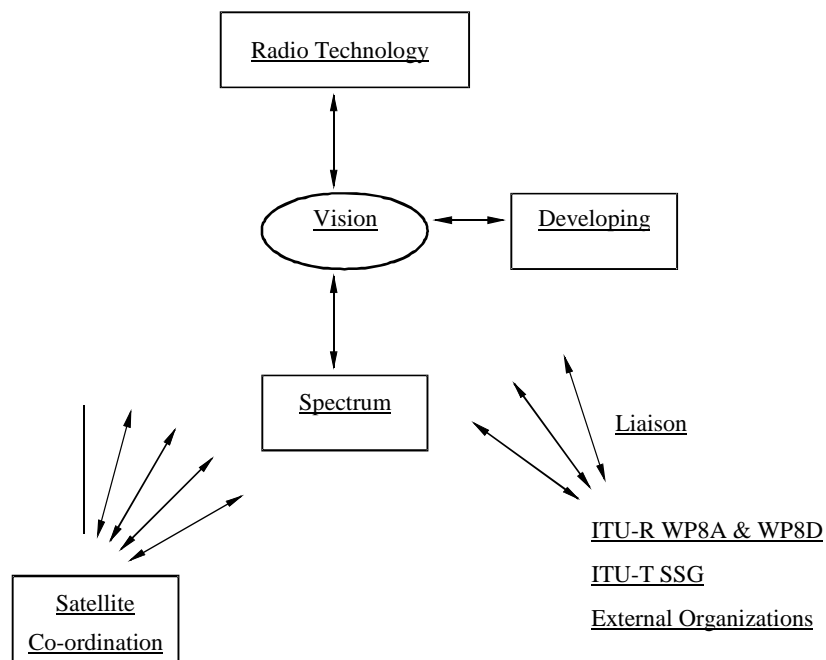
Working Party 8F structure

To provide a visual perspective, the following diagram details the proposed WP 8F structure and the relationships among the working groups. Also shown are the coordination activities with entities outside of WP 8F

Working Groups	Ad Hoc groups
Vision (WG VIS)	ITU-T (AH ITU-T)
Developing IMT (WG DEV)	Workplan (AH Workplan)
Radio Technology (WG R-TECH)	<u>Vocabulary (AH VOC)</u>
Satellite Co-ordination (WG SAT)	
Spectrum (WG SPEC)	

ITU-R Working Party 8F

Working Group relationship diagram



Notes - Boxes and ellipse are Working Groups

ATTACHMENT 2.3

Working Party 8F E-mail reflectors

To use the WP 8F E-mail reflectors, you should first be registered as a TIES user. Information about TIES is available at <http://www.itu.int/TIES/>

The following E-mail reflectors have been set up to facilitate work by correspondence between meetings. Each E-mail reflector has a related web page, which shows all E-mails that have been sent previously to that reflector. This table is also available on the ITU web at <http://www.itu.int/brsg/ties/mailling-lists/ede/wp8f.html>

Group	E-mail Reflector	E-mail archive
Working Party 8F	wp8f@itu.int	http://ties.itu.int/mail/wp8f/
WG Circulation (see note 1)	wp8f-circ@itu.int	http://ties.itu.int/mail/wp8f-circ/
WG Developing IMT	wp8f-dev@itu.int	http://ties.itu.int/mail/wp8f-dev/
WG Radio Technology	wp8f-rtech@itu.int	http://ties.itu.int/mail/wp8f-rtech/
WG Satellite coordination	wp8f-sat@itu.int	http://ties.itu.int/mail/wp8f-sat/
DG 5 - Sharing studies	wp8f-share@itu.int	http://ties.itu.int/mail/wp8f-share/
WG Spectrum	wp8f-spec@itu.int	http://ties.itu.int/mail/wp8f-spec/
WG Vision	wp8f-vis@itu.int	http://ties.itu.int/mail/wp8f-vis/
AH Vocabulary	wp8f-voc@itu.int	http://ties.itu.int/mail/wp8f-voc/
[AH CPM]	[]	[please note that the BR may set up a reflector to discuss CPM preparations]

Note 1: Please note that although the circulation working group has disbanded this reflector has been retained to provide an opportunity to provide an opportunity for members to exchange information on global circulation matters

To send a message to all the participants in a reflector group, send an E-mail to the E-mail address shown in column 2 of the table above, e.g. wp8f-vis@itu.int.

Do not send your request to subscribe to an email reflector to these addresses - your request would be sent to everyone on the email reflector list.

To subscribe to an E-mail Reflector, send an E-mail to mailserv@itu.int with the single line in the body of the E-mail message: subscribe [E-mail Reflector name] e.g. subscribe wp8f-vis

To unsubscribe to an E-mail Reflector, send an E-mail to mailserv@itu.int with the single line in the body of the E-mail message: unsubscribe [E-mail Reflector name] e.g. unsubscribe wp8f-vis

To unsubscribe from all E-mail reflectors send the message: unsubscribe *

To see who is listed on the E-mail reflector, send an E-mail to mailserv@itu.int with the single line in the body of the E-mail message: who [E-mail Reflector name] e.g. who wp8f-vis

- 1 **To see which reflectors** you are subscribed to, send an E-mail to mailserv@itu.int with the single
- 2 line in the body of the E-mail message: which
- 3 Multiple commands can be processed in a single E-mail provided each occurs on a separate line.
- 4 Commands in the "Subject:" line are NOT processed.

5

6

ATTACHMENT 2.4

Chairmen's contact details

WP 8F Chairman

Mr Stephen Blust
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WP 8F Vice-Chairman and WG R-TECH Chairman

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Ministry of Information Industry of China
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WP 8F Vice-Chairman and WG VIS Chairman

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Ministry of Information and Communication, Republic of Korea
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WP 8F Vice-Chairman and AH Workplan Chairman

Mr Stuart Cooke
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Tel: +447770647030 Email: stuart.cooke@nokia.com

~~**WG CIRC Chairman**~~

~~Mr Pekka Lansman
Telecommunications Administration Centre, Finland
Tel: +35896966424 Email: pekka.lansman@thk.fi~~

WG SPEC Chairman

Mr Francisco Soares
Agencia Nacional de Telecomunicacoes – ANATEL, Brazil
Tel: +55613122351 Email: fsoares@anatel.gov.br

WG DEV Chairman

Mr Biswapati Chaudhuri
Ministry of Communications, New Delhi, India
Tel: +91 113755441 Email: biswapati@vsnl.com

WG SAT Chairman

To be further considered at the Tokyo, October 2001 meeting

1 **AH ITU-T**

2 Mr James Hoffmeyer
3 Cingular Wireless
4 Tel: +1 303 828 5240 Email: jhoffmeyer@aol.com

5 **AH VOC Chairman**

6 Mr Horst Mennenga
7 Regulierungsbehörde für Telekommunikation und Post (Reg TP)
8 Tel: +49 6131 182220 Email: horst.mennenga@regtp.de

ATTACHMENT 2.5

Meeting Schedule

The meeting schedule of WP 8F is included here for the years 2001 & 2002.

Comment: Please note the tentative dates and locations for 2003 and 2004 and the change of the Geneva, October meeting to 25.09-02.10.02 (i.e. 6 days instead of 5). Also note that discussion with the External Organisations, other relevant ITU meetings such as ITU-T SSG, RAG, etc, will take place to try and avoid conflicting meeting schedules in 2003 and 2004.

2002

27.02-05.03
Queenstown,
New Zealand

29.05-04.06
Ottawa,
Canada

25.09-02.10
Geneva

CPM 18.11-
29.11 Geneva

2003

[Mid Feb, US]

[End ~~Early~~
August,
Scotland, UK]

[~~Early~~
November,
Korea]

~~SG8 4-5~~
~~Feb. 11~~
Geneva

2-6.6.03 RA
9.6-4.7.03 WRC

~~SG8 4-5~~ ~~Early~~
~~Dec.~~ Geneva

2004

[~~Mid-Feb~~, South
America ?]

[~~Early-May~~,
China]

[Early
September,
Germany]

SG8 [xx-yy.zz]
Geneva

ATTACHMENT 2.6

[Comment: Please note that this is new text and is primarily based on the input contribution doc 297 E]

Proposed Long-Range WP 8F Work Program Plan

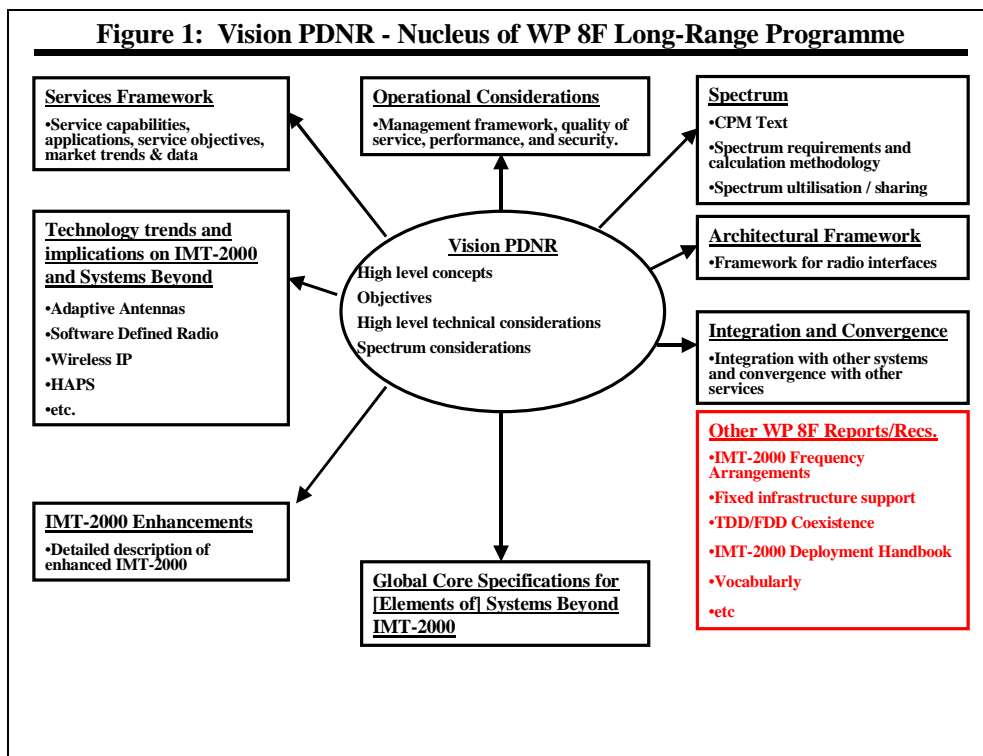
1 Update of Existing ITU-R M-Series Recommendations and Reports

Working Party 8F is responsible for updating the relevant existing M-Series documents. It should be noted that only those documents that are relevant to the future work of Working Party 8F and in developing the vision for the ongoing development of IMT-2000 and Systems Beyond will be updated. It should be noted however that there is useful content and concepts that are still valid for this future work and many aspects will be considered when producing new deliverables.

2 Development of New Recommendations and Reports

The vision PDNR is the first document in a series of Recommendations that define the ongoing development of IMT-2000 and Systems Beyond.

Figure 1 below shows how the Vision PDNR serves as the nucleus for all of the ITU-R Recommendations and Reports on the further development of IMT-2000 and systems beyond IMT-2000 that are produced by Working Party 8F. With the exception of the possible key characteristics, evaluation guidelines and global core specifications linkages, the figure does not attempt to depict the time relationship of the various documents to be produced by WP 8F. Each of the line items preceded by a “bullet” represents a WP8F deliverable.



[Comment: please note that ~~this figure is draft only to initiate discussion and contributions are invited to subsequent meetings to further develop this. Please note that this figure will need updating at the next WP 8F meeting in October to synchronise it with the deliverables / relationships with all of the WP 8F groups deliverables. Also note that the box in the bottom right hand corner should be amended to include Ad Hoc Groups such as VOC, as well as other ITU Reports / Recs.]~~

[Comment: please note that a figure should also be developed which shows the relationship between the development of IMT-2000 and Systems Beyond showing the timings for the update and new deliverables. This is to be further considered by the Vision Working Group.]

3 ITU-R, ITU-T and ITU-D Working Relationships

It is essential that all sectors within the ITU work together to develop a coherent vision for the ongoing future development of IMT-2000 and Systems Beyond which will require close co-operation. It should be noted that;

Resolution ITU-R 50 resolved:

“that a roadmap for ITU-R activities on IMT-2000 be developed by ITU-R Study Group 8 to ensure that this work is progressed effectively and efficiently with organisations external to the ITU”

“that effective co-ordination currently established between the ITU-T and ITU-R for IMT-2000 activities be continued”.

This resolution also invited the ITU-T to develop a complementary roadmap of all ITU-T IMT-2000 activities.

Resolution ITU-T 38 resolved:

“that ITU-T establish a roadmap for all of its IMT-2000 standardization activities”;

“that the effective coordination currently established between ITU-T and ITU-R for IMT-2000 activities be continued”

While it may be feasible for the ITU-R and ITU-T roadmaps to be combined into a single document it is considered that there is little merit in doing so and such a combination would lead to a lengthy document that would be difficult to maintain because of the different meeting schedules of the ITU-R WP 8F and ITU-T SSG. A more pragmatic and useful course is for each group to independently create their respective roadmaps, update these roadmaps at their own chosen frequency, and to communicate via well-established liaison procedures the latest version of each of the roadmaps so that the ITU-R and ITU-T work activities are complementary.

It is also noted that ITU-R and ITU-D will work co-operatively to develop items such as the Handbook on IMT-2000 and Systems Beyond.

ATTACHMENT 2.7

[Comment: Please note that the completion date for 'PDNR IMT.[xxx] on 'Implementation of expansion spectrum for IMT-2000 (identified at WRC-2000') has been moved to the Geneva 02 meeting and the existing work item 'Draft Report on co-existence between IMT-2000 TDD and FDD radio interface technologies operating in adjacent bands and in the same geographical area' has been included for completion by the Tokyo, 01 meeting.]

Agreed Overall deliverables / workplan of WP 8F

Meeting / Timing	Working Group	Deliverable
21-27.02.01, Rabat, Morocco	WG R-TECH	—M.1457 Rev [0].1
27.06-03.07.01, Stockholm, Sweden	WG R-TECH	—M.1457 Rev [0].2
10-16.10.01, Tokyo, Japan	WG CIRC WG R-TECH WG SPEC	<ul style="list-style-type: none"> • PDNR IMT.Circ on 'Global circulation of IMT-2000 terminals' • PDNR IMT.Unwant-MS 'Generic unwanted emission characteristics of mobile stations using the terrestrial radio interfaces of IMT-2000' - PDNR IMT.Unwant-BS 'Generic unwanted emission characteristics of base stations using the terrestrial radio interfaces of IMT-2000' • Completion of revision 24 of the terrestrial interfaces included in ITU-R M.1457 'Detailed specifications of the radio interfaces of IMT-2000' <p>—Draft Report on co-existence between IMT-2000 TDD and FDD radio interface technologies operating in adjacent bands and in the same geographical area</p>
27.02-05.03.02, Queenstown, New Zealand	WG R-TECH WG SPEC / WG VIS <u>WG SPEC</u>	<p>—M.1457 Rev [24].1</p> <p>—Text elements for the CPM Report to WRC-03 on Agenda items 1.22 and 1.33</p> <p><u>Draft Report on co-existence between IMT-2000 TDD and FDD radio interface technologies operating in adjacent bands and in the same geographical area</u></p>
29.05-04.06.02, Ottawa, Canada	WG SPEC WG VIS	<ul style="list-style-type: none"> • <u>PDNR IMT.[xxx] on 'Characteristics of Terrestrial IMT-2000 Systems for frequency sharing interference analysis'</u> • <u>Report on Compatibility study between IMT-2000 WCDMA 1800 MHz Downlink and GSM 1900 Uplink'</u> - PDNR IMT.[yyy] on 'Methodologies and procedures for assessing sharing between IMT-2000 and other radio services' • PDNR IMT.[zzz] on 'IMT-2000 interference criteria' <p>—PDNR IMT.Vis on 'The vision and objectives of the ongoing enhancement of IMT-2000 and for</p>

	WG R-TECH	systems beyond IMT-2000' —M.1457 Rev [24].2
25.09-01.10.02, Geneva	WG R-TECH WG SPEC	<ul style="list-style-type: none"> • Complete ITU-R M.1457 'Detailed specifications of the radio interfaces of IMT-2000' - Revision of PDNR ITU-R M.1036-1 IMT-[xxx] on 'Implementation of expansion spectrum for IMT-2000 (identified at WRC 2000) [Frequency arrangements and Implementation]
4Q/03	WG DEV <u>WG R-TECH</u> <u>WG SPEC</u> <u>WG VIS</u> <u>[Group TBD]</u> <u>Ad-Hoc Vocab</u>	<ul style="list-style-type: none"> • Handbook on <u>Deployment of IMT-2000 Systems</u> • <u>Update of of ITU-R M.1079-1 'Performance and quality service requirements for IMT-2000'</u> • <u>Update of ITU-R M.1457 'Detailed specifications of the radio interfaces of IMT-2000'</u> • <u>[PDNR on fixed infrastructure support and IMT-2000 deployment scenarios]</u> • <u>Report on technology trends and the impact on the ongoing development of IMT-2000 and Systems Beyond</u> • <u>Update of PDNR IMT.Unwant-MS 'Generic unwanted emission characteristics of mobile stations using the terrestrial radio interfaces of IMT-2000'</u> - <u>Update of PDNR IMT.Unwant-BS 'Generic unwanted emission characteristics of base stations using the terrestrial radio interfaces of IMT-2000'</u> • <u>Update of Rec. M.1224, Vocabulary of Terms for IMT-2000'</u>

ATTACHMENT 2.8

POTENTIAL NEW DELIVERABLES (EITHER NEW OR UPDATED RECOMMENDATIONS, REPORTS, HANDBOOKS, ETC) AND OTHER TEXTS (CPM, ETC)

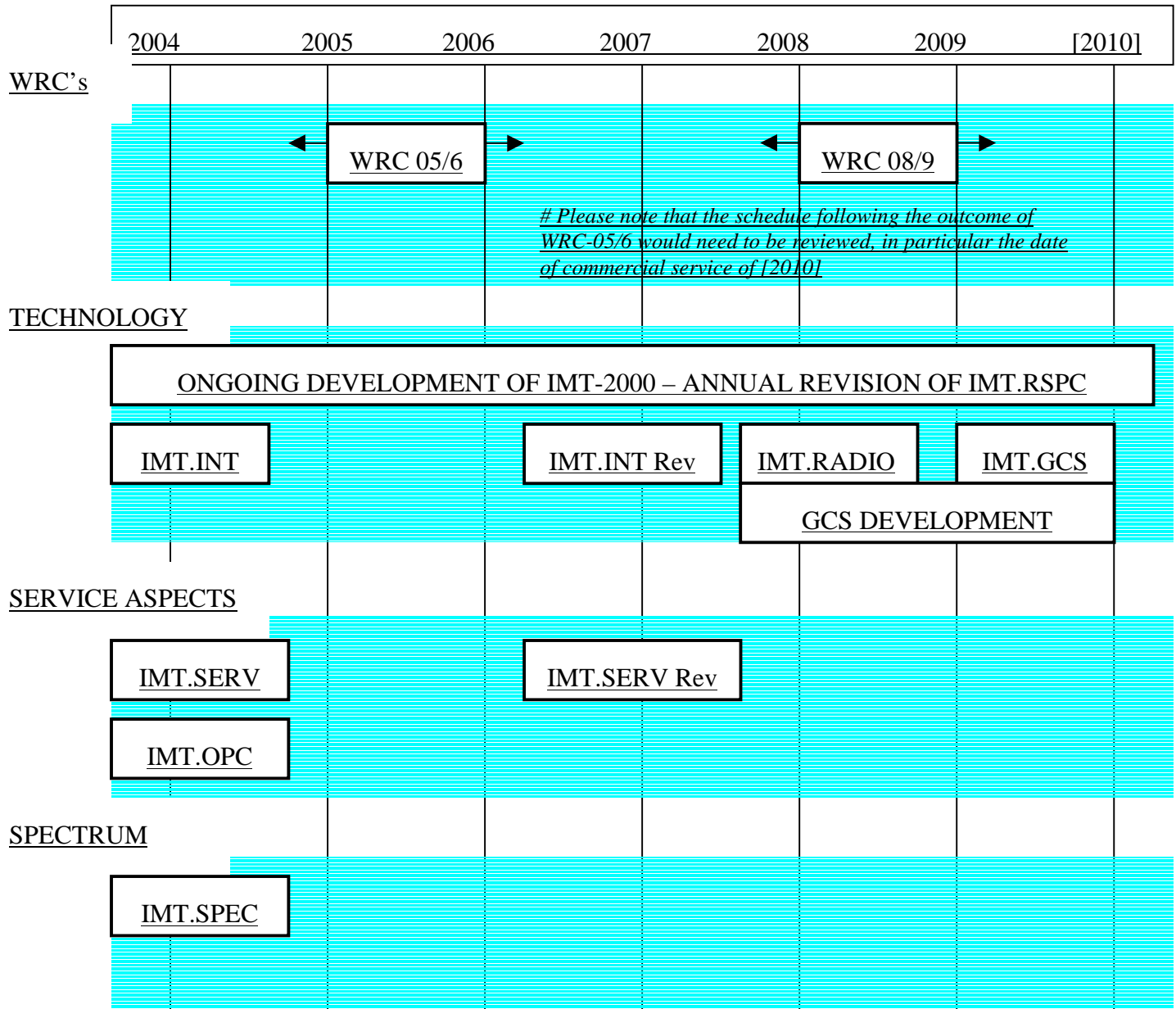


Figure X; Long range work plan until 2010

Comment; please note that this diagram is a very initial draft and contributions are requested for subsequent meetings. The idea is to initiate discussion on the deliverables that WP8F should focus on in the longer term.

Comment; should also include activities external to WP8F such as ongoing development of IMT-2000, intergration with other radio systems, research and development, potential commercial service of [new elements of] systems beyond etc.

Please note that the decision to produce a new deliverable or update an existing deliverable will be on a case by case basis. It should be noted that many of the existing recommendations contain useful information that could be useful for new or updated deliverables.

Comments are invited on the potential new deliverables detailed below. Again this is an initial proposal, based on a previous US contribution, to initiate discussion.

<u>Deliverable</u>	<u>Identifier</u>	<u>Lead WP 8F Working Group</u>	<u>Target Date</u>	<u>Comments</u>
<u>Potential new PDNRs / Reports on Spectrum considerations, spectrum calculation methodology, and spectrum requirements</u>	<u>IMT SPEC</u>	<u>Vision / Spectrum</u>	<u>?</u>	<p><u>This document(s) provides considerations on spectrum implications of the future development and systems beyond IMT-2000. It includes points to be required for the clarification of spectrum requirements. In addition, suitable frequency bands will be discussed, considering spectrum requirements and realization of the future development and systems beyond IMT-2000.</u></p> <p><i>[Comment; may also include considerations such as dynamic sharing with other radio systems / networks, licence-exempt type operation, implication of technology trends/ future technology capabilities and large spectrum requirements on spectrum utilisation, implications on intergration with other radio systems, etc]</i></p> <p><i>[Comment – what will the advice to WRC-05/6 be – what is the ideal outcome ? – these pdnr(s) / report(s) will be required as part of the preparations for WRC-05/6 etc as well as utilisation of any potential future spectrum]</i></p>
<u>Potential new PDNR on Framework for services</u>	<u>IMT SERV</u>	<u>[New Services / Market Aspects Group ?]</u>	<u>?</u>	<p><u>This document provides a description of the potential services, applications and capabilities to be provided by the ongoing enhancement of IMT- 2000 and systems beyond. It</u></p>

				<p><u>identifies the overall objectives, service requirements, user needs and applications associated with the ongoing enhancement of IMT-2000 and systems beyond, building on the services and capabilities defined in Recommendations ITU-R M.687, M. 816, and M. 1457.</u></p> <p><i>[Comment; This would also need to take market forecasts / data / information etc, external to the ITU, into account. This would then be fed into the spectrum considerations / calculations discussions]</i></p>
<u>Operational characteristics, management framework, performance, etc</u>	<u>IMT OPC</u>	<u>?</u>	<u>?</u>	<i>[Comment; is this deliverable required – what are the high level objectives]</i>
<u>Potential new PDNR on Framework for the radio interface(s) and radio interface requirements</u>	<u>IMT RADIO</u>	<u>[WG R-TECH]</u>	<u>?</u>	<p><u>This document provides considerations on framework for the radio interface(s) and radio interface requirements of the future development of IMT-2000 and systems beyond IMT-2000. It includes technical objectives, requirements and capabilities of the radio interface(s) of those systems. These considerations should be used to update the existing radio interface(s) and /or to specify new radio interface(s)</u></p>
<u>Potential new PDNR on Integration of systems (e.g., Bluetooth and wireless terminals) and convergence of services (e.g., broadcasting and mobile services).</u>	<u>IMT INT</u>	<u>WG VIS</u>	<u>?</u>	<i>[Comment; discussion is ongoing within the Vision WG on whether this may be required]</i>
<u>Potential new PDNR on Global core specifications [for elements of Systems Beyond]</u>	<u>IMT GCS</u>	<u>[WG R-TECH]</u>	<u>?</u>	<i>[Comment; discussion is required on what the final output should be from WP8F in terms of the radio technology standards for the elements of Systems Beyond. What should the level of standardisation be, what should the involvement of WP8F be, what is the degree of standardisation,</i>

				<p><u>how should the modularity / inter-operability requirements be taken into account / what aspects of the radio access should be included – emission limits / channel plan etc}</u></p> <p><u>[Comment; how can ITU-R add value / recognise the specs / technologies ?]</u></p> <p><u>[Comment; what should the consensus / harmonisation / specification development process be – does the same process for IMT-2000 need to be re-created for the [new elements] of systems beyond ?]</u></p>
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Plans to develop and update Recommendations and other texts

Part I: Plan for updates to existing M Series Recommendations, Reports & Handbooks.

~~[Comment: Please note that this a first draft proposal and comments are invited for subsequent meetings on this table.]~~

[Comment: Please note that the BR is asked to provide a summary of the procedure for suppression of a Recommendation / Report. Once the suppression procedure is known then the deliverables marked 'none' in the type of update will be further considered for suppression.]

Existing M-Series ITU-R Publication on IMT-2000	Lead WP 8F Working Group	Priority to be updated (Low / Medium / High)	Type of update (Major, TBD, None)	Target Date	Comments
Rec. M.687-2, International Mobile Telecommunications-2000 (IMT-2000)	Vision	Low	None	N/A	Elements from this should be considered for inclusion in the Vision deliverables
Rec. M.816-1, Framework for Services Supported On International Mobile Telecommunications-2000 (IMT-2000)	Vision	Low	None	N/A	Elements from this should be considered for inclusion in the Vision deliverables
Rec. M.817, International Mobile Telecommunications-2000 (IMT-2000) Network Architectures	Vision	Low	None	N/A	Elements from this should be considered for inclusion in the Vision deliverables
Rec. M.818-1, Satellite Operation Within International Mobile Telecommunications-2000 (IMT-2000)	Sat Co-ord	?	?	?	Sat Co-ord Group should review in conjunction with WP 8D. The lead group (i.e. WP 8F or WP 8D) needs to be determined.
Rec. M.819-2, International Mobile Telecommunications-2000 (IMT-2000) For Developing Countries	Developing	Medium	TBD	2003	Comments; close co-operation with ITU-T and ITU-D required
Rec. M.1034-1, Requirements For The Radio Interface(s) For International Mobile Telecommunications-2000 (IMT-2000)	R-TECH	Low	None	N/A	Comments; this information has been superseded by ITU-R M.1457

Existing M-Series ITU-R Publication on IMT-2000	Lead WP 8F Working Group	Priority to be updated (Low / Medium / High)	Type of update (Major, TBD, None)	Target Date	Comments
Rec. M.1035, Framework For The Radio Interface(s) and Radio Sub-System Functionality For International Mobile Telecommunications-2000 (IMT-2000)	Vision	Low	None	N/A	Elements from this should be considered for inclusion in the Vision deliverables
Rec. M.1036-1, Spectrum Considerations For Implementation Of International Mobile Telecommunications-2000 (IMT-2000) In the bands 1 885-2 025 MHz and 2 110-2 200 MHz	Spectrum	High	Major	3Q / 2002	Comment: WG Spectrum will consider updating this and if yes to be completed by Oct '02 <u>Comment: this is in the existing workplan and the title will be updated.</u>
Rec. M.1078, Security Principles for International Mobile Telecommunications-2000 (IMT-2000)	R-TECH	Low <u>[US proposal is to make this medium]</u>	TBD None	N/A <u>[US propose to commence an update activity at 8th meeting and complete at 11th meeting]</u>	Comment: This work is already being undertaken in external groups and therefore WP 8F should not consider this issue in detail in a stand-alone Rec. Could consider reflecting some aspects in other WP 8F Recs. such as Vision deliverables. <u>[US propose that this work should be in collaboration with other groups such as ITU-T SSG]</u> <u>[Comment; there is a need to establish what WP8F needs to do and how it could add value when compared with what activities are already ongoing in external organisations. Contributions invited.]</u>
Rec. M.1079-1, Performance and Quality of Service Requirements for	R-TECH	Med	TBD	2003	Comment: needs to be synchronised with

International Mobile Telecommunications-2000 (IMT-2000)					the PPs/EO's work
Rec. M.1167, Framework for the Satellite Component of International Mobile Telecommunications-2000 (IMT-2000)	R-TECH	?	?	?	Sat Co-ord Group should review in conjunction with WP 8D. The lead group (i.e. WP 8F or WP 8D) needs to be determined.
Rec. M.1168, Framework of International Mobile Telecommunications-2000 (IMT-2000) Management	VISION	Low	None	N/A	Elements from this should be considered for inclusion in the Vision deliverables

Existing M-Series ITU-R Publication on IMT-2000	Lead WP 8F Working Group	Priority to be updated (Low / Medium / High)	Type of update (Major, TBD, None)	Target Date	Comments
Rec. M.1223, Evaluation of Security Mechanisms for IMT-2000	R-TECH	Low	None	N/A	Comment: This work is already being undertaken in external groups and therefore WP 8F should not consider this issue in detail in a standalone Rec. Could consider reflecting some aspects in other WP 8F Recs. such as Vision deliverables. [Comment; see <u>comments in Rec M.1078]</u>
Rec. M.1224, Vocabulary of Terms for International Mobile Telecommunications-2000 (IMT-2000)	Ad-Hoc VOC	Med	TBD	3Q/02	<u>Comment; this is in the existing workplan.</u>
Rec. M.1225, Guidelines for Evaluation of Radio Transmission Technologies for IMT-2000	R-TECH	Low	None	N/A	Comment: maybe useful for considering potential proposed new IMT-2000 radio interfaces.
Rec. M.1308, Evolution of Land Mobile Systems Towards IMT-2000	VISION	Low	None	N/A	Comment: some of this information maybe useful as Vision considers the ongoing evolution of enhanced IMT-2000 towards Systems Beyond
Rec. M.1311, Framework for Modularity and Radio Commonality within IMT-2000	R-TECH (VISION)	Med	?	?	Comment: some of the principles within this Rec. maybe be useful for consideration in the vision work
Rec. M.1390, Methodology for the Calculation of IMT-2000 Terrestrial Spectrum Requirements	Spectrum	Med	?	?	This will need updating in preparations for WRC 05/6
Rec. M.1391, Methodology for the Calculation of IMT-2000 Satellite Spectrum Requirements	Spectrum	Med	?	?	This will need updating in preparations for WRC 05/6

Existing M-Series ITU-R Publication on IMT-2000	Lead WP 8F Working Group	Priority to be updated (Low / Medium / High)	Type of update (Major, TBD, None)	Target Date	Comments
Rec. M.1455, Key Characteristics for the International Mobile Telecommunications-2000 (IMT-2000) Radio Interfaces	R-TECH	Low	None	N/A	Comment: maybe useful for considering potential proposed new IMT-2000 radio interfaces.
Rec. M.1456, Minimum Performance Characteristics and Operational Conditions for High Altitude Platform Stations Providing IMT-2000 In the bands 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz in Regions 1 and 3 and 1 885-1 980 MHz and 2 110-2 160 MHz in Region 2	R-TECH	Medium	TBD	?	Comment: Needs to be kept up to date with the latest developments.
Rec. M.1457, Detailed Specifications of the Radio Interfaces of International Mobile Telecommunications-2000 (IMT-2000)	R-TECH	High	TBD	3Q/01 and annually thereafter	<u>Comment: this is in the existing workplan.</u>
<u>Rec. ITU-R M.[IMT.UNCERTAIN] 'Measurement uncertainty as it applies to test limits for the terrestrial component of IMT-2000'.</u>					<u>Comment: it is anticipated that this will be published by ITU-R by end 01</u>
<u>PDNR IMT.Circ on 'Global circulation of IMT-2000 terminals'</u>					<u>Comment: it is anticipated that this will be published by ITU-R by Sept 02</u>
<u>PDNR IMT.Unwant-MS 'Generic unwanted emission characteristics of mobile stations using the terrestrial radio interfaces of IMT-2000'</u>					<u>Comment: it is anticipated that this will be published by ITU-R by Sept 02</u>
<u>PDNR IMT.Unwant-BS 'Generic unwanted emission characteristics of base stations using the terrestrial radio interfaces of IMT-2000'</u>					<u>Comment: it is anticipated that this will be published by ITU-R by Sept 02</u>

Existing M-Series ITU-R Publication on IMT-2000	Lead WP 8F Working Group	Priority to be updated (Low / Medium / High)	Type of update (Major, TBD, None)	Target Date	Comments
Report M.2023, Spectrum Requirements for International Mobile Telecommunications-2000 (IMT-2000)	Spectrum	Med	TBD	?	Comment: could be useful as part of the preparations for WRC 05/6
Report M.2024, Summary of Spectrum Usage Survey Results	Spectrum (Developing)	Med	TBD	?	Comment: could be useful as part of the preparations for WRC 05/6 and perhaps also part of the handbook work
Report World Telecommunications Development, Mobile Cellular (1999)	N/A	?	?	?	<i>[Comment; should this be included in this list]</i>
Handbook: Principles and Approaches on Evolution to IMT-2000; Volume II of the Land Mobile Handbook	R-TECH	Low	?	?	Consultation required with WP 8A
Handbook: Manual on Mobile Communications Development (1997)	N/A	?	?	?	<i>[Comment; should this be included in this list]</i>

Part II: ~~Plan for new Recommendations for Systems Beyond IMT-2000~~

Comment: Contributions are invited on the proposal below. Please note that some WP 8F working groups, such as Vision, are considering the relationship of the IMT Vision Recommendation and its relationship with potential new PDNRs / Reports. Please note that Parts II and III have not been fully considered within WP 8F.

The table lists, only those documents that are associated with the development of a set of Recommendations, Reports, and Handbooks for systems beyond IMT-2000. Documents related to the future development of IMT-2000 (i.e., refinements or enhancements of IMT-2000) are provided in Part I.

Doc. Type	ITU-R WP 8F document	Objective	Doc. Identifier	Contents
Rec.	Vision framework and overall Objectives of the Ongoing Enhancement of IMT-2000 and of Systems Beyond IMT-2000. High Level concepts and objectives for both the terrestrial and satellite components of systems beyond IMT-2000.	This document should provide only a high level view of concepts, objectives, services, market trends, spectrum considerations, security, system management, enabling technologies, and developing country requirements for systems beyond IMT-2000. More detailed information and recommendations will be provided in the other ITU-R Reports and Recommendations that are listed in this Work Programme Table.	M.[IMT-VIS]	Att. 3.2
Rec.	Spectrum considerations, spectrum calculation methodology, and spectrum requirements	This document provides considerations on spectrum implications of the future development and systems beyond IMT-2000. It includes points to be required for the clarification of spectrum requirements. In addition, suitable frequency bands will be discussed, considering spectrum requirements and realization of the future development and systems beyond IMT-2000.	M.[IMT-SPEC]	Att. 1 (to Att. 3.6)

Doc. Type	ITU-R WP-8F document	Objective	Doc. Identifier	Contents
Rec.	Framework for services	This document provides a description of the services and capabilities to be provided by the ongoing enhancement of IMT-2000 and systems beyond. It identifies the overall objectives, service requirements, user needs and applications associated with the ongoing enhancement of IMT-2000 and systems beyond, building on the services and capabilities defined in Recommendations ITU-R M.687, M. 816, and M. 1457.	M.[IMT-SVC]	Attachment 2 (to Att. 3.6)
Rec.	Operational characteristics, management framework, performance, quality of service requirements, and security requirements	TBD	M.[IMT-OPC]	
Rec.	Network architecture	TBD	M.[IMT-NET]	
Rec.	Framework for the radio interface(s) and radio interface requirements	This document provides considerations on framework for the radio interface(s) and radio interface requirements of the future development of IMT-2000 and systems beyond IMT-2000. It includes technical objectives, requirements and capabilities of the radio interface(s) of those systems. These considerations should be used to update the existing radio interface(s) and /or to specify new radio interface(s).	M.[IMT-FRAME]	Att. 3(to Att. 3.6)
Rec.	Evolution and modularity principles	TBD	M.[IMT-EVOL]	
Rec.	Integration of systems (e.g., Bluetooth and wireless terminals) and convergence of services (e.g., broadcasting and mobile services).	TBD	M.[IMT-CON]	
Rec.	Key characteristics	TBD	M.[IMT-KEY-B]	
Rec.	Evaluation guidelines	TBD	M.[IMT-EVAL-B]	
Rec.	Global core specifications	TBD	M.[IMT-RSPC-B]	

Doc. Type	ITU-R WP-8F document	Objective	Doc. Identifier	Contents
Rep.	Technology Trends. This is envisioned to be a series of technical reports on major technology areas that are needed for the development of ongoing enhancement of IMT 2000 and systems beyond IMT 2000. Examples include software defined radio, adaptive antennas, and wireless IP.	These reports are designed to provide information on technologies that may be part of the future development of IMT 2000 and systems beyond.	M.[IMT-SDR]	Att. 4(to Att. 3.6)
Rep.			M.[IMT-AANT]	
Rep.			M.[IMT-W-IP]	
Rep.			IMT-Tech(?)	

TBD—To be developed.

Part III: Plan for other New ITU-R Recommendations and Reports

Comment: Contributions are invited on the proposed table below. Please note that Parts II and III have not been fully considered within WP 8F.

All items in the table are currently in the Overall Deliverables/Work Plan of WP 8F. These items are not associated specifically with the “future development of IMT-2000” (either refinements or enhancements) or with systems beyond IMT-2000, i.e., they may be related to both.

ITU-R WP 8F Document	Brief Abstract	Doc. Identifier	Doc. Type	Responsible Working Group	Target Completion Date
Handbook on IMT 2000		M.[IMT HDBK]	Handbook	Development	1Q/2003
Measurement uncertainty as it applies to test limits for the terrestrial component of IMT 2000.		M.[IMT UNCERT]	Rec.	Circulation	
Generic unwanted emission characteristics associated with the terrestrial radio interfaces of IMT 2000.		M.[IMT UNWANT]	Rec.	Circulation	3Q/2001
Global circulation of IMT 2000 terminals.		M.[IMT CIRC]	Rec.	Circulation	3Q/2001
Methodologies and procedures for assessing sharing between IMT 2000 and other radio services.		M.[IMT SHARE]	Rec.	Spectrum	4Q/2002
IMT 2000 spectrum implementation and harmonization		M.[IMT HARM]	Rec.	Spectrum	4Q/2002
Fixed infrastructure support and IMT 2000 deployment scenarios		M.[IMT INF]	Report	Spectrum	4Q/2002
Co-existence between IMT 2000 TDD and FDD radio interface technologies operating in adjacent bands and in the same geographical area		M.[IMT CO-EX]	Report	Spectrum	4Q/2002

ATTACHMENT 2.9

ITU-R Questions assigned to WP 8F

Question ITU-R 229/8: Future development of IMT-2000 and systems beyond IMT-2000.

Question ITU-R 77-4/8: Adaptation of mobile radiocommunication technology to the needs of developing countries.

Question ITU-R 223/8: Internet applications over mobile systems (with WP 8A).

Question ITU-R 224/8: Adaptive antennas (with WP 8A).

Question ITU-R 230/8: Software-defined radio (with WP 8A).

QUESTION ITU-R 77-4/8*

**Adaptation of Mobile Radiocommunication Technology
to the needs of Developing Countries**

(1986-1992-1993-1997-2000)

The ITU Radiocommunication Assembly,

considering

- a) the Questions submitted by the Plan Committee for Latin America at its meeting in Paramaribo in December 1985, in accordance with Provision No. 93 of the International Telecommunication Convention (Nairobi, 1982);
- b) the work carried out by ITU-R Study Group 3 so far on radio propagation;
- c) the work carried out so far by Radiocommunication Study Group 8 on mobile radiocommunication systems, in particular on International Mobile Telecommunications-2000 (IMT-2000);
- d) ITU-R IMT-2000 Recommendations, in particular Recommendation ITU-R M.819 on IMT-2000 for developing countries and Recommendation ITU-R.M.1457;
- e) that the frequency bands 1 885-2 025 MHz and 2 110-2 200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement IMT-2000 systems, including the bands 1 980-2 010 and 2 170-2 200 MHz for the satellite component of IMT-2000;
- f) the rapid development and deployment of digital mobile systems for both "fixed" and mobile uses;
- g) the potential further improvement in the cost effectiveness of wireless access technologies for the provision of basic, essentially fixed, applications;
- h) Question ITU-R 140/9 on the use of cellular type mobile technologies in fixed wireless access applications;
- j) Question ITU-R 215/8 on fixed wireless access systems;
- k) Questions ITU-D 1/2, 2/2 and 4/2;
- l) the desirability of specific research and development activities to support the development of optimum low cost wireless access standards;
- m) the aggressive plans of many developing countries to enhance considerably their level of telecommunication access, which include major wireless access investments, and that these plans are primarily constrained by the cost of access;
- n) the potential increase in speed of deployment and provision of basic telecommunication services in the developing countries through the use of wireless access technology;
- o) ITU-T Recommendations and on-going work items that are relevant to this work,

* This Question should be brought to the attention of Radiocommunication Study Group 3 and of the Telecommunication Standardization and the Telecommunication Development Bureaux.

decides that the following Question should be studied

1 How can the ITU-R studies of IMT-2000 and other mobile technology developments, be best adapted to meet the urgent need of developing countries for cost effective access to the global telecommunication networks?

NOTE 1 – Particular emphasis should be given to the following items:

- modular design (easily expandable) for both hardware and software;
- universal protocols and standards for terminal-to-base station and base station-to-central control unit, etc.;
- standard equipment for land, maritime and aeronautical mobile use;
- harmonization of interworking of radio telecommunication systems with the public switched telephone network (PSTN);
- harmonized use of frequency bands to the extend possible.

2 What are the optimum arrangements and technical characteristics needed to use mobile technology/equipment (cellular type or others) in urban, rural or remote areas in developing countries?

NOTE 1 – Special attention should be paid to:

- the need to provide an economical, reliable and high-quality telecommunication infrastructure;
- propagation problems in building complexes, and mountainous, coastal and sandy desert areas;
- the possibility of using the equipment in a variety of environments including extreme of heat and cold, high humidity, dust, corrosive atmospheres and other environment hazards;
- the need for rugged, simple-to-maintain equipment;
- efficient and economical spectrum usage in local conditions where there may be only a small number of users and where severe propagation conditions may be encountered;
- the possibility of using satellite, and other radio systems.

3 What are the main characteristics of IMT-2000 and other mobile technologies that should be used for Fixed Wireless Access in developing countries, for applications ranging from urban to remote areas?

NOTE 1 – Special attention should be given to:

- the need for having modular design, allowing flexible growth in terms of number of users, coverage areas and type of services;
- the need for having simple and low cost terminals;
- the possibility of a variety of terminals to attend the needs of various services ranging from voice to medium and high speed data transmission;
- the need for open and flexible interfaces in order to interconnect with existing networks.

further decides

1 that the results of the above studies should be included in one or more Recommendations;

2 that the results of the above studies should be completed by 2001.

QUESTION ITU-R 223/8*

Internet Protocol Applications over Mobile Systems

(2000)

The ITU Radiocommunication Assembly,

considering

a) that Internet Protocol (IP) applications are experiencing and are expected to continue to experience high rates of growth globally;

b) that demands to access the Internet via mobile communications systems using IP are increasing rapidly;

c) that demands for global Voice-over-IP (VoIP) services via mobile communications systems are also increasing rapidly;

d) that IP applications over mobile systems may require additional technical considerations and special consideration should be placed on VoIP services over mobile systems;

e) that for international operation, global interoperability will be a highly advantageous characteristic of IP applications over mobile systems;

f) that Resolution 101 (Minneapolis, 1998) recognizes the need for IP-related standardization;

g) that regional standards organizations are working on such technologies,

decides that the following Question should be studied

1 What are the essential technical characteristics needed to support IP applications over mobile systems?

2 What are the essential operational characteristics necessary to provide IP applications over mobile systems?

3 What special requirements are associated with VoIP services over mobile systems?

4 What essential characteristics (e.g. mobility, data rates) should be identified for international standardization?

further decides

1 that the results of the above should be included in one or more Recommendations;

2 that the above studies should be completed by 2001.

NOTE 1 – The material developed during the above studies may be appropriate for inclusion in a handbook.

NOTE 2 – Suitable liaisons should be established to bring the attention of the ITU-T and other appropriate bodies of core network and network management standards to support the work of the ITU-R on IP applications over mobile systems.

* This Question should be brought to the attention of Radiocommunication Study Group 9 and of the Telecommunication Standardization Sector.

QUESTION ITU-R 224/8*

Adaptive Antennas

(2000)

The ITU Radiocommunication Assembly,

considering

- a) that mobile, and particularly cellular, radio systems are growing at a rapid rate globally;
- b) that the radio spectrum available for such systems is limited;
- c) that spectrum efficient technologies are essential to the continued growth of such systems;
- d) that control of radiation patterns within cells is a desirable capability which would be an important system design tool;
- e) that adaptive antennas have been developed;
- f) that adaptive antennas might provide benefits of spectrum efficiency in implementing and operating mobile communications systems;
- g) that Recommendations on smart antennas would be complementary to other ITU-R Recommendations on mobile radiocommunications,

decides that the following Question should be studied

- 1** What are the key technical characteristics that are associated with applications of adaptive antennas in mobile radio systems?
- 2** What are the implications of the use of adaptive antennas in mobile radio systems?
- 3** What frequency band considerations are important to the design and application of adaptive antennas?
- 4** What are the potential reductions in interference, and the enhancement of desired signals from the application of smart antennas?

further decides

- 1** that the results of the above studies should be included in one or more Recommendation(s);
- 2** that the above studies be completed by the year 2001.

NOTE 1 – The material developed during the above studies may be appropriate for inclusion in a handbook.

* This Question should be brought to the attention of Radiocommunication Study Group 9.

QUESTION ITU-R 229/8*

Future development of IMT-2000 and Systems Beyond IMT-2000

(2000)

The ITU Radiocommunication Assembly,

considering

a) that ever increasing demands for mobile communications requires the continual evolution of systems, and development of new systems where required, for multimedia applications such as high speed data, IP-packet and video;

b) that future mobile communications systems will require higher data rates than those planned in the initial implementation of IMT-2000;

c) that for international operation and economy of scale it is desirable to agree on the system technical, operational and spectrum related parameters, including interoperability standards;

d) that the initial standardization of IMT-2000 radio specifications was completed by the end of 1999;

e) that it is anticipated that the initial implementation of IMT-2000 systems will be around 2001 and that these systems may experience ongoing enhancements;

ITU-T Recommendations and associated activities that are relevant to this work;

Question ITU-R 77/8 on adaptation of mobile radiocommunication technology to the needs of developing countries;

h) that the cost of radio technology is continually decreasing, thus making the radio approach an increasingly attractive access option,

recognizing

a) the timescales necessary to develop and agree on the technical, operational and spectrum related issues associated with the ongoing evolution and development of future mobile systems;

b) that service functionalities in fixed and mobile networks are increasingly converging;

c) that higher data rates, greater than those associated with initially implemented IMT-2000 systems are expected to be required to meet future needs;

the needs of the developing countries;

e) that the characteristics of future systems beyond IMT-2000, with data rates significantly higher than 2 Mbit/s, will require the adoption of more spectrally efficient techniques and may be best accommodated in frequency bands above 3 GHz,

* This Question should be brought to the attention of the Telecommunication Standardization Sector.

decides that the following Question should be studied

Part A – Future development of IMT-2000

1 What are the overall objectives and user needs for ongoing enhancement of IMT-2000 terrestrial and satellite components, beyond that defined in Recommendation ITU-R M.1457, building upon service capabilities as defined in Recommendations ITU-R M.687 and ITU-R M.816?

2 What are the applications and service requirements associated with ongoing enhancement of IMT-2000, including the provision of enhanced IP based applications?

3 What are the technical, operational and spectrum related issues for the ongoing enhancement of IMT-2000?

4 What are the technical and operational characteristics needed to meet the requirements (such as utilization of identified frequency bands) for ongoing enhancement of IMT-2000?

5 What are the optimum arrangements required to facilitate harmonized use of the spectrum identified for IMT-2000?

6 What factors need to be considered in developing a migration strategy to facilitate transition from enhanced IMT-2000 to systems beyond this?

7 What are the issues concerning the facilitation of global circulation of terminals, mutual recognition agreements and other related aspects regarding the successful introduction of IMT-2000?

Part B – Systems beyond IMT-2000

1 What are the overall objectives for future systems beyond IMT-2000?

2 What are the service applications associated with these systems?

3 What are the technical, operational and spectrum related issues and associated studies as necessary, to meet the objectives of these future systems?

4 What are the issues concerning the facilitation of global circulation of terminals, mutual recognition agreements and other related aspects regarding the successful introduction of systems beyond IMT-2000?

further decides

1 that the results of the above studies should be included in one or more Recommendation(s);

2 that the studies of future development of IMT-2000, as described in Part A above, should be completed by 2003;

3 that preliminary studies of systems beyond IMT-2000, as described in Part B above, should be commenced forthwith, with progress to be reviewed in 2001.

QUESTION ITU-R 230/8*

Software defined Radios

(2000)

The ITU Radiocommunication Assembly,

considering

a) that considerable research and development has been done on Software Defined Radio (SDR) design;

b) that SDRs may offer design and operational versatility and flexibility in mobile radio systems;

c) that SDRs may facilitate spectrum efficiencies in complex mobile radio configurations;

d) that SDRs offer intersystem interoperability in disaster and emergency situations;

e) that SDRs may facilitate the regional and global harmonization of wireless communications;

f) that SDRs may provide for improve manufacturing economies of scale;

g) that SDR design can provide users with more operational features;

h) that Recommendations on SDR design would be complementary to other ITU-R Recommendations on mobile telecommunications,

decides that the following Question should be studied

1 What are the key technical characteristics that are associated with the design and application of SDR?

2 What frequency band considerations are important to the application of SDR?

3 What special interference considerations may be required in SDR applications?

4 What are the operational implications of SDR to mobile radio systems?

5 What should the appropriate ITU definition for SDR be?

6 What technical considerations are necessary to insure conformance with ITU Recommendations and Radio Regulations?

further decides

1 that the results of the above studies should be included in one or more Recommendations and in a handbook;

2 that the above studies should be completed by the year 2003.

* This Question should be brought to the attention of Radiocommunication Study Groups 1 and 9.